

WHAT IS CLAIMED IS:

1. An apparatus, comprising:
 - a plurality of encoders for encoding respective sampled audio streams to produce respective encoded streams;
 - 5 a plurality of first buffers, for receiving respective encoded streams and forming therefrom respective sequences of transport cells, each of said transport cells comprising a portion of said respective encoded audio stream, each of said first buffers having associated with it a respective first buffer utilization level; and
 - a second buffer, for receiving and forwarding to a communications channel said
 - 10 sequences of transport cells, said second buffer having associated with it a second buffer utilization level; wherein
 - each of said encoders adapting an encoding fidelity level in response to at least one of said respective first buffer utilization level and said second buffer utilization level.
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2. The apparatus of claim 1, wherein said encoders provide high fidelity encoding in response to said second buffer utilization level being below a first threshold utilization level.
- 20 3. The apparatus of claim 1, wherein said encoders provide medium fidelity encoding in response to said second buffer utilization level being below a second threshold utilization level.
4. The apparatus of claim 3, wherein said high fidelity encoding comprises 32kbps
- 25 encoding and said medium fidelity encoding comprises 24kbps encoding.
5. The apparatus of claim 3, wherein said high fidelity encoding comprises 48kbps encoding and said medium fidelity encoding comprises 32kbps encoding.
- 30 6. The apparatus of claim 3, wherein said encoders provide high fidelity encoding in response to said respective first buffer utilization level being below a third threshold utilization level.

7. The apparatus of claim 6, wherein said high fidelity encoding comprises 32kbps encoding and said medium fidelity encoding comprises 24kbps encoding.
8. The apparatus of claim 6, wherein said high fidelity encoding comprises 48kbps
5 encoding and said medium fidelity encoding comprises 32kbps encoding.
9. The apparatus of claim 1, wherein said encoders provide high fidelity encoding to produce respective encoded streams including high, medium and low priority bits, said low and medium priority bits being removed from said transport cells in response
10 to said second buffer utilization level being below a first threshold utilization level.
10. The apparatus of claim 1, wherein said encoders provide high fidelity encoding to produce respective encoded streams including high, medium and low priority bits, said low priority bits being removed from said transport cells in response to said second
15 buffer utilization level being below a second threshold utilization level.
11. The apparatus of claim 9, wherein said low and medium priority bits are removed from transport cells within respective first buffers, said transport cells being further processed to include additional portions of said respective encoded stream.
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12. The apparatus of claim 10, wherein said low priority bits are removed from transport cells within respective first buffers, said transport cells being further processed to include additional portions of said respective encoded stream.
- 25 13. The apparatus of claim 3 wherein said transport cells comprise asynchronous transfer mode (ATM) cells.
14. The apparatus of claim 3, wherein said communication channel comprises a T1 communication channel, said first threshold level comprises 54 cells and said second
30 threshold level comprises 65 cells.
15. The apparatus of claim 3, wherein said cells comprise Internet Protocol (IP) packets.

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16. An encoding method, comprising the steps of:
encoding, using respective encoders, each of a plurality of sampled audio streams to produce respective encoded streams;
5 storing each of said encoded streams in a respective first buffer, each of said first buffers having associated with it a respective first buffer utilization level;
forming, for each of said stored encoded streams, a respective sequence of transport cells, each of said transport cells comprising a portion of said respective stored encoded stream;
10 coupling said formed transport cell sequences to a communications channel via a second buffer, said second buffer having associated with it a second buffer utilization level; and
adapting an encoding fidelity level of each of said encoders in response to at least one of said respective first buffer utilization level and said second buffer utilization
15 level.
17. The method of claim 16, wherein said encoders provide high fidelity encoding in response to said second buffer utilization level being below a first threshold utilization level.
- 20 18. The method of claim 16, wherein said encoders provide medium fidelity encoding in response to said second buffer utilization level being below a second threshold utilization level.
- 25 19. The method of claim 18, wherein said high fidelity encoding comprises 32kbps encoding and said medium fidelity encoding comprises 24kbps encoding.
20. The method of claim 18, wherein said high fidelity encoding comprises 48kbps encoding and said medium fidelity encoding comprises 32kbps encoding.
- 30 21. The method of claim 18, wherein said high fidelity encoding comprises 24kbps encoding and said medium fidelity encoding comprises 16kbps encoding.

22. The method of claim 18, wherein said encoders provide high fidelity encoding in response to said respective first buffer utilization level being below a third threshold utilization level.

5 23. The method of claim 21, wherein said high fidelity encoding comprises 32kbps encoding and said medium fidelity encoding comprises 24kbps encoding.

24. The method of claim 21, wherein said high fidelity encoding comprises 48kbps encoding and said medium fidelity encoding comprises 32kbps encoding.

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25. The method of claim 16, wherein said encoders provide high fidelity encoding to produce respective encoded streams including high, medium and low priority bits, said low and medium priority bits being removed from said transport cells in response to said second buffer utilization level being below a first threshold utilization level.

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26. The method of claim 16, wherein said encoders provide high fidelity encoding to produce respective encoded streams including high, medium and low priority bits, said low priority bits being removed from said transport cells in response to said second buffer utilization level being below a second threshold utilization level.

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27. The method of claim 25, wherein said low and medium priority bits are removed from transport cells within respective first buffers, said transport cells being further processed to include additional portions of said respective encoded stream.

25 28. The method of claim 26, wherein said low priority bits are removed from transport cells within respective first buffers, said transport cells being further processed to include additional portions of said respective encoded stream.

29. The method of claim 15 wherein said transport cells comprise asynchronous
30 transfer mode (ATM) cells.

30. The method of claim 26, wherein said communication channel comprises a T1 communication channel, said first threshold level comprises 54 cells and said second threshold level comprises 65 cells.

5 31. The method of claim 26, wherein said cells comprise Internet Protocol (IP) packets.

~~32.~~ A computer readable medium having computer executable instructions for performing steps comprising:

10 encoding, using respective encoders, each of a plurality of sampled audio streams to produce respective encoded streams;

storing each of said encoded streams in a respective first buffer, each of said first buffers having associated with it a respective first buffer utilization level;

forming, for each of said stored encoded streams, a respective sequence of
15 transport cells, each of said transport cells comprising a portion of said respective stored encoded stream;

coupling said formed transport cell sequences to a communications channel via a second buffer, said second buffer having associated with it a second buffer utilization level; and

20 adapting an encoding fidelity level of each of said encoders in response to at least one of said respective first buffer utilization level and said second buffer utilization level.